

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-4 canceled.

5. (Currently Amended) ~~The power conversion device according to any of claims 1 to 4, A power conversion device, comprising:~~
- a plurality of sets of power conversion circuits comprising a plurality of semiconductor elements; and
- a cooling unit comprising a heat sink section and a heat discharging section to cool said power conversion circuits,

wherein said plurality of semiconductor elements are divided into each phase or into a positive side and a negative side, and said sets of divided semiconductor elements are mounted on said cooling unit ~~provided corresponding to said sets of semiconductor elements such that a set of divided semiconductor elements for the same phase or same side is arranged in row fashion in a direction of flow of a cooling air current.~~

6. (Canceled).
7. (Currently Amended) ~~The power conversion device according to any of claims 1 to 4, A power conversion device, comprising:~~
- a plurality of sets of power conversion circuits comprising a plurality of semiconductor elements; and
- a cooling unit comprising a heat sink section and a heat discharging section to cool said power conversion circuits,

wherein said heat sink section of said cooling unit is of box shape with coolant sealed inside.

8. (Currently Amended) ~~The power conversion device according to any of claims 1 to 4, A power conversion device, comprising:~~

a plurality of sets of power conversion circuits comprising a plurality of semiconductor elements; and

a cooling unit comprising a heat sink section and a heat discharging section to cool said power conversion circuits,

wherein said heat sink section of said cooling unit is constructed so that semiconductor elements can be mounted on a front face and a rear face, a set of semiconductor elements that constitutes one set of said power conversion circuits being mounted on one face, while a set of semiconductor elements that constitutes another said other set of power conversion circuits is mounted on said other face.

9. (Currently Amended) ~~The power conversion circuit according to any of claims 1 to 4, A power conversion device, comprising:~~

a plurality of sets of power conversion circuits comprising a plurality of semiconductor elements; and

a cooling unit comprising a heat sink section and a heat discharging section to cool said power conversion circuits,

wherein said plurality of semiconductor elements are divided into each phase, sets of semiconductor elements of different power conversion circuits in a first set of power conversion circuits are mounted and arranged, alternately with sets of

semiconductor elements of different power conversion circuits in a second set of power conversion circuits, for each phase on one face of said cooling unit.

10. (Original) The power conversion device according to claim 9, wherein when said semiconductor elements are of different height for each power conversion circuit, a step is provided in said semiconductor mounting face of said cooling unit so that heights of electrical connection terminals of said semiconductor elements are equal.

11. (Original) A power conversion device, comprising:
a plurality of sets of power conversion circuits that convert AC to DC or DC to AC by switching actions of a plurality of semiconductor elements;

wherein if one set of said power conversion circuits malfunctions, said malfunctioning power conversion circuits are isolated and operation continued with remaining set of power conversion circuits, and

a cooling unit having a heat sink section and heat discharging section and constructed such that a current of cooling air flows to said heat discharging section;

wherein said semiconductor elements that constitute said plurality of power conversion circuits are apportioned to each phase, a set of said semiconductor elements for the same phase are arranged in row fashion in a direction of flow of a cooling air current, and

semiconductor elements of different said power conversion circuits being mounted in common on said heat sink section and arranged in sequence in each phase in a direction of flow of said cooling air current.

12. (Currently Amended) A power conversion device, comprising:

a plurality of sets of power conversion circuits that convert AC to DC or DC to AC by switching actions of a plurality of semiconductor elements;

wherein if one set of said power conversion circuits malfunctions, said malfunctioning power conversion circuits are isolated and operation continued with remaining sets of power conversion circuits, and

a cooling unit having a heat sink section and heat discharging section and constructed such that a current of cooling air flows to said heat discharging section;

wherein said power conversion device is divided into a main circuit comprising said set of semiconductor elements for each said power conversion circuit and a peripheral circuit that protects said semiconductor elements,

said set of semiconductor elements of mutually different said power source conversion circuits and said peripheral circuit being arranged in row fashion in a direction of flow of a cooling air current and said main circuit comprising said set of semiconductor elements being mounted on said heat sink section of said cooling unit and said peripheral circuit being arranged in a position through which a cooling air current flows.

13. (New) The power conversion device of claim 5, wherein said semiconductor elements are mounted on said cooling unit such that semiconductor elements for different phases or different sides of at least one of said power conversion circuits are arranged in row fashion substantially perpendicular to said direction of flow of said cooling air current.

14. (New) The power conversion device according to any of claims 5 and 7-9, wherein said plurality of semiconductor elements convert AC to DC or DC to AC by switching actions of said semiconductor elements.

15. (New) The power conversion device according to any of claims 5 and 7-9, wherein said plurality of sets of power conversion circuits comprises a plurality of sets of inverter circuits configured to connect loads of respectively different outputs by switching actions of said plurality of semiconductor elements.

16. (New) The power conversion device according to any of claims 5 and 7-9, wherein said plurality of sets of power conversion circuits comprises:

a plurality of sets of variable voltage, variable frequency inverter circuits that invert DC to AC of variable voltage and variable frequency by switching actions of said plurality of semiconductor elements, and

a constant voltage, constant frequency inverter circuit that inverts DC to AC of constant voltage and constant frequency.

17. (New) The power conversion device according to any of claims 5 and 7-9, wherein said plurality of sets of power conversion circuits comprises:

a converter circuit that converts AC to DC by switching actions of said plurality of semiconductor elements; and

an inverter circuit that inverts said DC converted by said converter circuit to AC.